

**CITY OF SCOTTSDALE  
TRANSPORTATION DEPARTMENT**

**SCOPE OF WORK**

**DESIGN CONCEPT STUDY**

**PIMA ROAD CORRIDOR  
McDOWELL ROAD TO 90<sup>TH</sup> STREET**

**AND**

**McDOWELL ROAD TO HAYDEN/CURRY INTERSECTION**

**TRACS No. H3344 01 C**

**August 2006**

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## PROJECT SCOPE OF WORK

### 100 GENERAL

#### 110 Location

The study area consists of existing Pima Road from the intersection with McDowell Road on the south to 90<sup>th</sup> Street on the north. The study shall also include the potential extension of Pima Road from the McDowell Road intersection southerly to the intersection of Hayden Road at Curry Road. The City of Scottsdale and the Salt River Pima Maricopa Indian Community (SRPMIC) jointly own the existing Pima Road. The portion of the road owned by SRPMIC is covered by an easement granted to the Arizona Department of Transportation (ADOT). The three agencies have signed an Intergovernmental Agreement to undertake this corridor master planning and preliminary design effort. The City of Scottsdale has agreed to be the contracting agency for the DCR and Environmental Phase. It may be necessary to collect data beyond these limits to complete the study. A location map is provided in Appendix A.

#### 120 Description

The intent of this study is to prepare a corridor analysis, Design Concept Report (DCR) and associated environmental documentation for the build-out of Pima Road, utilizing the existing corridor and current and future access along the limits of the study. The study shall examine potential cross section alternatives and the number of through travel lanes required in each direction as well as the number of lanes and proposed operations at all major intersections. The study will include a comprehensive analysis of the drainage needs in the corridor and alternatives that could be implemented as part of a comprehensive improvement plan. The study shall investigate the needs of all modes including bicycles, pedestrians, and transit.

The work on this study will include the following:

- A. Review the AASHTO Controlling Design Criteria for the existing roadway and prepare the initial and final AASHTO Controlling Design Criteria report.
- B. Prepare an Initial Drainage Report with sufficient detail to provide sizing of cross-drainages to support roadway alternatives, while identifying existing drainage problems and possible solutions.
- C. Prepare a Traffic Analysis with sufficient data to assess the design concepts of the through lane needs and the major intersection configurations.
- D. Conduct public involvement and agency coordination to build consensus among local communities and affected agencies.
- E. Using engineering and environmental information, recommend alternatives to be evaluated in the Initial Design Concept Report. The environmental information shall address fatal flaws for alternatives and provide order of magnitude evaluations for alternative comparisons.
- F. Develop the initial and final Design Concept Report for congestion alleviation and long range capacity enhancement, to address the following:
  - 1. Consistency with the short and long term improvement plans of the City of Scottsdale, the SRPMIC and the regional transportation system including the Regional Transportation Plan approved by the Maricopa Association of Governments (MAG).

2. Adequate drainage solutions that do not negatively impact the existing conditions.
  3. Appropriate cross section and geometric configurations based on ingress/egress, capacity, level of service, horizontal & vertical clearance, safety, constructibility, and other general design criteria.
  4. Logical construction segments, logical sequence, and probable timetable when lanes and intersection improvements may be needed based on community concerns, traffic projections, maintenance issues, traffic control, constructability and other factors.
- G. Prepare Draft and Final Environmental Documents.
- H. Prepare an initial Implementation Report.

### **130 Purpose**

This Design Concept Study of Pima Road and its potential extension has several purposes:

Identify the scope and Design Concept for the addition of through lanes and major intersection configurations within the existing roadway corridor.

Identify the scope for drainage concepts needed to address storm water runoff.

Identify and evaluate noise abatement measures.

Identify specific development segments, including cost estimates, for inclusion in a future comprehensive corridor improvement program.

Conduct an extensive public involvement program which meets local, state and federal guidelines and addresses the concerns of each community.

Prepare Environmental Document under NEPA process.

Achieve consensus for design concepts among MAG, ADOT, Regional Public Transportation Authority (RPTA), City of Scottsdale, SRPMIC, Maricopa County, state, and federal agencies.

Identify and evaluate any requirements for Joint Project Agreements between the City of Scottsdale, SRPMIC, ADOT, Flood Control District of Maricopa County (FCDMC), State of Arizona and local jurisdictions prior to final design.

### **140 Construction Cost**

The proposed M.A.G. Regional Transportation Plan includes \$25.2 million in regional funds for Pima Road improvements, which represents an estimated 70 percent of the project costs. The Consultant shall provide cost estimates commensurate with the level of detail for the Design Concept Report and Implementation Report. The estimates will be used for future programming.

## **150 Organization**

The City of Scottsdale in consultation with the SRPMIC has agreed to retain the design consultant to perform a variety of engineering and environmental services for this project. Funding for this project is being provided by ADOT. The City of Scottsdale and the SRPMIC own the land under Pima Road from north of 90th Street to McDowell Rd. The SRPMIC has a lease agreement with ADOT to operate and maintain portions of the existing roadway right of way and is currently in the process of reviewing major private developments on the property between Pima Road and SR 101L (Pima Freeway). The following sections define the responsibilities of City of Scottsdale and the Consultant, and the scope of work.

## **160 Length of Services**

The length of service shall be 365 calendar days from notice to proceed to the completion of the Initial Design Concept Report and Draft Environmental Assessment, including all reviews and public meetings/hearings. A contract extension in time may be negotiated once all comments are received on the draft documents.

## **170 Project Schedule**

The Consultant shall provide a schedule of major project milestones, based on an estimated date of notice to proceed 90 calendar days after the proposal submittal date. The Consultant shall submit an initial schedule within 10 calendar days of actual "notice to proceed" which shows the necessary intermediate submissions required to complete the Initial DCR and Draft EA within one year.

The Consultant shall submit updates to the project schedule at intervals that are acceptable to the City Project Manager. The updates shall include project detail activities and the respective dates in a bar chart or other approved format and a schedule of major project milestones concurrent with monthly invoices. If an activity or milestone falls 30 days or more behind the approved schedule, a revised schedule shall be prepared showing steps to be taken to complete the work on time.

## **172 Progress Meetings**

The Consultant shall arrange and attend periodic progress meetings, the frequency of which will be determined by the City Project Manager. Progress meetings will be held in addition to other project meetings and will be held to address topics relating to the Consultant's project status and progress of the study contract.

## **180 Responsibility Chart**

Appendix B is a chart indicating the division of responsibilities between the Consultant, the City, and others. This chart is intended as a "checklist." In the event of a conflict, the written scope of work shall take precedence.

## **200 DESIGN REFERENCES**

Design references developed and published by the City of Scottsdale, ADOT, the SRPMIC and other agencies shall be used in design of this project (where applicable). The Consultant is advised that the establishment of the AASHTO Design Criteria shall address which standards and details shall be used on this project. Possession of those documents is not necessary to successfully complete the project, however the Consultant is responsible for designing in accordance with the applicable documents and current revisions and supplements thereto.

### **300 DESIGN CRITERIA**

The project shall be designed in accordance with the City of Scottsdale Design Standards and Policies Manual, the SRPMIC Design Standards and Policies, ADOT Project Development Process Manual, ADOT Roadway Design Guidelines, the ADOT/USFS Guidelines for Highways on National Forest Lands (where applicable), and the information presented in this section. The design criteria may be supplemented by Project Design Memorandums, provided by the City of Scottsdale during the course of the project.

#### **301 Supplemental Design Criteria**

Design Year - 2025

Pavement Design Life - 20 years

Number of Traffic Lanes - Evaluate and recommend.

Median Width - Evaluate and recommend

#### **400 DESIGN WORK PERFORMED BY CONSULTANT**

The work shall conform to the standards, criteria, and requirements of this Scope of Work, including Appendix C.

The Consultant shall research all available City of Scottsdale, SRPMIC, and ADOT photogrammetry, survey, mapping, and digital terrain modeling; and identify/obtain additional photogrammetry, survey, mapping, and digital terrain modeling as necessary to complete the study.

#### **500 MANAGEMENT CONSULTANT SERVICES (Not Applicable)**

#### **600 POST-DESIGN SERVICES (Not Applicable)**

#### **700 MATERIALS FURNISHED BY CITY OF SCOTTSDALE, THE SRPMIC, AND ADOT**

##### **710 Surveys and Mapping**

City of Scottsdale will make available the following materials:

Latitude and longitude values (Arizona state plane coordinates and City of Scottsdale grid values).

AZ State Plane coordinates for control points.

Bench Marks and other necessary points

Survey Records

The SRPMIC will make available the following materials:

Latitude and longitude values (Arizona state plane coordinates and Datum values for the SRPMIC).

AZ State Plane coordinates for control points.

Bench Marks and other necessary points

Survey Records and plans for development on the SRPMIC

Utility record drawings for water and sewer

##### **720 Materials Investigation**

City of Scottsdale, SRPMIC and ADOT will make available historical data on soils and existing pavement information and proposed pavement sections.

##### **730 Record Documents**

City of Scottsdale, SRPMIC and ADOT will make available the following drawings:



Available "as built" plans of existing conditions

Available right-of-way plans of existing conditions

Previous DCR prepared by BRW Inc. for Pima Road

**740 Traffic Data**

City of Scottsdale, SRPMIC and ADOT will make available the following design traffic data:

Traffic Counts and Projection Data

K, D, and T factors

**750 Miscellaneous**

City of Scottsdale and ADOT will make available the following:

Accident history

Bridge records

**800 SECTION DESIGN COORDINATION (Not Applicable)**

**900 (SECTION NON-EXISTENT)**

**1000 CONTRACT ADMINISTRATION**

**1010 City of Scottsdale**

The City of Scottsdale Project Manager in consultation with a representative of the SRPMIC will:

Conduct ongoing reviews of the Consultant's progress in performing the work and furnish technical comments in a timely manner

Review the Consultant's billings

Review and evaluate the Consultant's requests for extension of time and supplemental agreements

Review all correspondence with the public and agencies prior to the Consultant's mailing of any correspondence

Provide a focal-point contact for questions, requests, and submittals

**1020 Consultant**

The Consultant shall:

Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project in the location specified in the Consultant's technical proposal

Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project

Establish internal accounting methods and procedures for documenting and monitoring project costs

Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts

The Consultant has total responsibility for the accuracy and completeness of the contract documents and related design prepared under this project, and shall check all such material accordingly. The documents will be reviewed by the City of Scottsdale for conformity with City procedures and the terms of the contract. Review by the City of Scottsdale does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted. The responsibility for accuracy and completeness of such items remains solely that of the Consultant.

### **1021 Project Control**

The Consultant shall provide data, in the format specified by the City of Scottsdale in consultation with a representative of the SRPMIC, upon request to monitor costs, personnel usage, and to report progress.

The project control system may include features to:

- Determine and highlight critical path work as work progresses

- Identify progress against schedule for each identified work item

- Forecast completion dates from current progress

- Highlight rescheduled work in any area which is out of the required sequence

- Determine any physical area that requires more resources than originally allocated

- Forecast future conflicts in any area

- Provide estimates of time, personnel usage, and dollars required at the lowest work element tracked, based upon current expenditures versus schedule

- Provide the capability of random inquiry concerning the status of any work element in terms of schedule, personnel usage, and dollars.

### **1022 Subcontract Services**

Due to the nature and scope of the required services, it may be desirable for the Consultant to subcontract portions of the work. However, the subcontracting firms must be approved in writing prior to initiation of any work. The volume of work performed by the subcontractors shall not exceed forty- nine percent (49%) of the total contract value.

### **1023 Project-Related Correspondence**

The Consultant shall furnish written documentation of communications between the Consultant and any party pertaining specifically to this project to the City of Scottsdale with a copy to the representative of the SRPMIC for their records within one (1) week of the communication. The Consultant is responsible for recording and distributing to the participants the minutes of all meetings pertaining to this project within one (1) week of the meeting.

## 1024 Quality Control

The Consultant has total responsibility for the accuracy and completeness of the plans and related design prepared under this contract and shall check all such material accordingly. The Consultant shall have a quality control plan in effect during the entire time work is being performed under this contract. The plan shall establish a process whereby plans and calculations and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. Non-compliance will be sufficient cause for rejection of submittal. Periodic Quality Control audits may be performed by the Project Leader.

The Consultant shall submit the quality control plan to the City of Scottsdale with a copy to the representative of the SRPMIC for approval within fifteen (15) working days of receipt of written Notice to Proceed. The plan should comply with the requirements of Section 1025. The plan shall address as a minimum: checking procedures, sub-consultant submittals, training of employees in quality requirements, and methods of monitoring and documenting quality control activities.

## 1025 Quality Control Plan Requirements

Identification of key personnel and definition of specific responsibilities

A technical review process

Checking procedures

A program to train employees in the quality control requirements

A process to monitor and document quality control activities

The plan should identify by name the specific project personnel and their individual responsibilities relative to the project and the Quality Control process.

Technical review should be distinguished from checking. Checking is for verification of the accuracy of the documents; technical review is for the verification of the overall design concept of the project. As a minimum, technical review should do the following:

Determine the adequacy of the design process to achieve the desired goals

Evaluate the general selection and sizing of materials and equipment

Determine if all viable alternatives have been considered

Determine the practicality of the design concept

Determine if legal and physical restraints were considered

Determine if the design theory, concepts, and project layout are logical

Determine applicability of computer programs used

Determine if the technical specifications are sufficiently comprehensive

Determine the constructability of the selected design

The checking process should assure that all documents produced, including, but not limited to, plans, reports, calculations, estimates, and schedules, are thoroughly checked by an individual equally competent to the originator of the document to verify accuracy. The process should address resolution of conflict and assure agreement of computer programs and procedures for checking computer input and output. Checking shall not only confirm the accuracy of calculations, but shall include a thorough review of the proper use of Standard Drawings, Drafting Guide, Project Design Guidelines, and other manuals and documents referenced under Section 200.

The training program should provide an opportunity for all project staff to become familiar with the design and the quality control process that will be required on this project. Particular attention should be directed to defining specific individual responsibilities and assuring their understanding.

A method for monitoring and documenting the required processes is essential to achieve the desired results. This process should easily and quickly verify the entire Quality Control process. A checklist should be developed for quick reference and periodic review by the Project Principal and the City of Scottsdale, in consultation with a representative of SRPMIC.

#### **1026 Consultant Personnel**

The Consultant's work shall be performed and/or directed by the key personnel identified in the technical/fee proposal presentations by the Consultants. Any changes in the indicated key personnel or the Consultant's officer-in-charge of the work, as identified in the Consultant's proposal, shall be subject to review and approval by the City of Scottsdale Project Manager in consultation with a representative of the SRPMIC.

#### **1030 Acceptability of the Work**

The plans, design concept, calculations, reports and other documents furnished under this Scope of Work shall conform to the "standards-of-the industry" quality. The criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and having the originator and checker identified.

#### **1040 Study Documentation**

If requested, the Consultant shall submit any design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the contract documents to the City of Scottsdale Project Manager and the SRPMIC representative for review.

The design notes and computations shall be recorded on 8-1/2" x 11" computation sheets, appropriately titled, numbered, dated, indexed and signed by the designer and checker. Computer output forms and other oversized sheets shall be folded or legibly reduced to 8-1/2" x 11" size. The data shall be bound in a hard-back folder for submittal to the City of Scottsdale with a copy to the representative of the SRPMIC.

At the project completion, a final set of the design notes and computations, sealed by a Professional Engineer, registered in the State of Arizona, shall be submitted with the record set of plans and tracings.

Design notes and calculations shall include, but are not necessarily limited to, the following data:

- Field survey notes and computations - (as developed)

- Design criteria used for the project

- Geometric design calculations for horizontal alignment

Vertical geometry calculations

Right-of-way calculations (including easements) - (as developed)

Drainage computations

Culvert selection evaluation documentation - (as developed)

Earthwork calculations not included in the quantity computation booklet

Calculations showing cost comparisons of various alternatives considered

Calculations of quantities

Documentation of meetings, telephone conversations or site visits

#### **1045 Computer-Aided Drafting and Design (CADD)**

The use of a CADD system for this project is required.

All submittals, including drawings, exhibits, and storage media shall be prepared using Intergraph MicroStation software or Intergraph IGDS graphic software.

The consultant shall ensure that all submitted files match the final sheets and that each file can stand independently of any other. (Reference files are not permitted in the final submittals.)

Submittals shall conform to the following requirements of ADOT CADD Standards, Volumes 1, 2, 3 and 4:

General Specifications

CADD Data Acceptance and Release Rules

All drafting requirements, including line weights and styles, symbols, lettering and CADD levels

Exceptions to the CADD Standards for this project are:

All existing culverts, cattle guards, and luminaries shall have a line code of 1 and a line weight of 2.

All file deliverables shall conform to the ADOT CADD Standards.

#### **1050 Value Analysis**

The design and project development performed under this contract will be subject to value analysis. For the purposes of this Scope of Work, "Value Analysis" consists of those tasks performed by a Value Analysis Team in accordance with the Value Analysis Program Manual, which is available from the ADOT Special Programs Section. Any studies or other activities of a similar nature shall not be referred to as "Value Analysis."

Projects estimated to cost in excess of \$5 million shall be value analyzed at either the pre-final Location/Design Concept Report or Initial Design stages. Value analysis studies may also be recommended by the Consultant or by the City of Scottsdale in consultation with a representative of the

SRPMIC. The Consultant is encouraged to recommend value analysis for all standards and specifications, as well as for this project. All studies must be approved in advance by the City of Scottsdale Project Manager in consultation with a representative of the SRPMIC.

#### **1051 Value Analysis Team**

The value study will be performed by a Value Analysis Team consisting of City of Scottsdale, SRPMIC and ADOT personnel, personnel from other consultants or outside agencies, or some combination of these sources. The Consultant shall cooperate fully with the Value Analysis Team, providing necessary background information for analysis, although not normally participating in the formal study.

#### **1052 Consultant's Responsibilities**

The Consultant, upon notification of the approval of a value study, shall compile appropriate data for analysis and make a presentation to the Value Analysis Team, in accordance with the Study Plan prepared by the Value Engineer. The Consultant shall communicate and cooperate fully with the Value Engineer, the Project Manager, and the Value Analysis Team.

It is expected that the elements necessary for a value study can be assembled and delivered by the consultant with minimum expenditure of effort and time under its normal design procedures in approximately four (4) working days. The Consultant will be allowed to budget 32 work-hours for data compilation, the presentation, and study response, if appropriate. The Consultant shall report the hours expended and estimated costs of labor and materials to the Value Engineer for cost tracking and value analysis program evaluation purposes.

In accordance with the Program Manual, the findings and recommendations of the value study will be forwarded to the City of Scottsdale Project Manager with a copy to the representative of the SRPMIC for review. If the Project Manager in consultation with a representative of the SRPMIC disagrees with some or all of the recommendations, the City of Scottsdale Transportation General Manager in consultation with a representative of the SRPMIC will make a final determination. The Consultant shall implement the approved findings and recommendations of the value study. If significant redesign is necessary, the additional work will be added to the Scope of Work by Contract Modification.

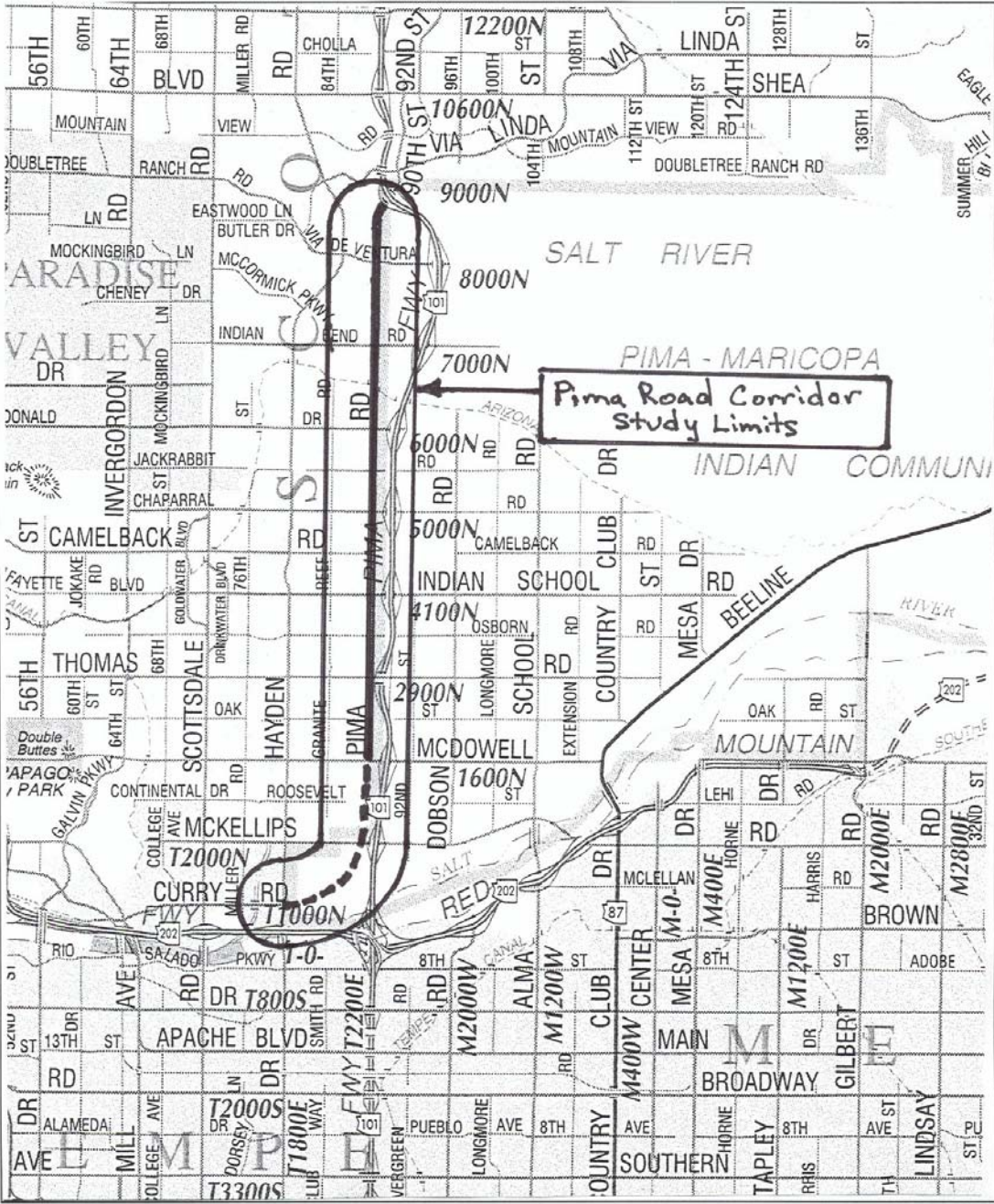
#### **1060 Reviews and Submittals**

Review and coordination of the Consultant's work by the City of Scottsdale in consultation with a representative of the SRPMIC will continue through the project development process. The Consultant may continue design efforts while the City and a representative of the SRPMIC are reviewing design submittals. Doing so in no way relieves the Consultant of the responsibility to incorporate review comments into the design, nor does it entitle the Consultant to any additional fees as a result of making changes due to review comments.

The Consultant shall submit the items required for review as outlined in this Scope of Work. The Consultant shall also submit a certification of compliance accompanied by evidence (e.g. check prints, sign off sheets, etc.) documenting compliance with the Consultant's Quality Control program (reference Section 1024 of this Scope of Work). The certificate shall specifically address the items included and the submittal phase.

Copies of review submittals and finalized documents shall be delivered to the City of Scottsdale with a copy to the representative of the SRPMIC by the Consultant accompanied by a transmittal letter and distribution list with complete mailing addresses. All deliveries shall be by hand or overnight courier. All plans shall be half-size black and white sheets.

APPENDIX A  
SITE AND LOCATION MAP



## APPENDIX B RESPONSIBILITY CHART

	ITEM	SCOPE SECTION	CONSULTANT	CITY	ADOT	SRPMIC & OTHERS
<b>A</b>	<b>AERIAL MAPPING</b>	Apndx. C				
	1. Photogrammetric Control & Panels		X			
	2. Aerial Photography		X			
	3. Photogrammetric Compilation					
	a. Planimetric Map		X			
	b. Topographic Map		X			
	c. Digital Terrain Model		X			
	d. Orthophotos		X			
	e. Drainage Area Map		X			
	f. Right-of-Way Map		X			
	4. Roadway Cross Sections		X			
	5. Drainage Cross Sections		X			
<b>B</b>	<b>CONTROL SURVEYS</b>	Apndx. C				
	1. Horizontal		X			
	2. Vertical		X			
	3. Topographic Map		X			
	4. Utility Locations		X	X	X	X
	5. Right-of-Way		X			
	6. Roadway Cross Sections		X			
	7. Drainage Cross Sections	N/A				
<b>C</b>	<b>ENVIRONMENTAL</b>	Apndx. C				
	1. Environmental Assessment Document		X			
	2. Air Quality Technical Report		X			
	3. Noise Analysis Technical Report		X			
	4. Cultural Resources Survey		X			
	5. Visual Impact Analysis		X			
	6. Biological Evaluation		X			
	7. Public Meetings/Hearing		X	X		X
	a. Advertising		X	X		X
	b. Presentation Materials		X			
	c. Moderator			X		
	d. Technical Questions		X	X		
	e. Transcript			X		
	f. Responses to Public Comments		X	X	X	X
	8. Hazardous Materials Survey		X			



	ITEM	SCOPE SECTION	CONSULTANT	CITY	ADOT	SRPMIC & OTHERS
<b>D</b>	<b>MATERIALS INVESTIGATION</b>	Apndx. C				
	1. Provide Soil Survey					
	a. Roadway		X	X	X	
	b. Lateral Ditches		X			
	c. Earthwork		X			
	d. Retention/Detention Ponds		X			
	2. Provide Bridge Foundation and Retaining/Sound Wall Foundation Investigations	N/A				
	3. Provide Testing and Analysis	N/A	X			
	4. Provide Preliminary Pavement Design			X		
	5. Materials Memorandum	N/A	N/A			
<b>E</b>	<b>DESIGN TRAFFIC DATA</b>	Apndx. C				
	1. Gather Statistics					
	a. 2-Way ADT		X	X	X	
	b. Turning Movements		X			
	2. Prepare Traffic Data Sheets		X			
	3. Prepare Equivalent 18 Kips	N/A	N/A			
	4. Prepare Traffic Analysis		X			
	5. L.O.S. Analysis		X			
<b>F</b>	<b>RIGHT-OF-WAY</b>	Apndx. C				
	1. Develop Requirements		X	X	X	X
	2. Prepare Maps for R/W Report	N/A	N/A			
	3. Secure Title Search	N/A	N/A			
	4. Prepare R/W Plans and Legal Descriptions	N/A	N/A			
	5. Prepare Transfer Documents	N/A	N/A			
	6. Provide Appraisals	N/A	N/A			
	7. Negotiate Right-of-Way	N/A	N/A			
	8. Condemnation Proceedings	N/A	N/A			
	9. Testify in Court	N/A	N/A			
	10. R/W Cost Estimates		X			
	11. Relocation Assistance	N/A	N/A			
	12. Property Management	N/A	N/A			
	13. Clearance Letter	N/A	N/A			

	ITEM	SCOPE SECTION	CONSULTANT	CITY	ADOT	SRP/MDC & OTHERS
<b>G</b>	<b>CONSTRUCTION PLANS</b>	N/A	N/A			
	1. Plot Design Survey	N/A	N/A			
	2. Basic Roadway Plans Preparation	N/A	N/A			
	3. Drainage Design	N/A	N/A			
	4. Bridge Design	N/A	N/A			
	5. Roadway Lighting Plans	N/A	N/A			
	6. Traffic Signal Plans	N/A	N/A			
	7. Signing & Pavement Marking Plans	N/A	N/A			
	8. Utility Adjustment Plans	N/A	N/A			
	9. Maintenance of Traffic Plans	N/A	N/A			
	10. Landscape Architectural Design	N/A	N/A			
<b>H</b>	<b>RISK (ECONOMIC) ASSESSMENT</b>	N/A	N/A			
	1. Prepare Risk (Economic) Assessment	N/A	N/A			
<b>I</b>	<b>SECTION 404 PERMIT</b>	Apndx. C				
	1. Coordinate with Permitting Agencies		X	X	X	X
	2. Prepare Permit Application					
	a. Forms		X			
	b. Sketches		X			
	c. Hydraulic Calculations		X			
	d. Supporting Documents		X			
	3. Process Permit Application			X	X	X
<b>J</b>	<b>UTILITY &amp; RAILROAD</b>	Apndx. C				
	1. Utilities Identification		X			X
	2. Submit Railroad Data	N/A				
	3. Conduct Utility Pre-Design Conference	N/A	N/A			
	4. Secure Utility Adjustment Plans	N/A	N/A			
	5. Secure Utility Relocation Schedule	N/A	N/A			
	6. Secure Utility Agreements	N/A	N/A			
	7. Process Relocation Schedule & Agreement	N/A	N/A			
	8. Clearance Letter	N/A	N/A			
	9. Prior Rights Information	N/A	N/A			
<b>K</b>	<b>COST ESTIMATES</b>	Apndx. C				
	1. Prepare Construction Cost Estimates		X			
	2. Prepare R/W Cost Estimates		X	X	X	X
<b>L</b>	<b>REVIEWS AND SUBMITTALS</b>	1060 Apndx. C				
	1. All Reports and Submittals		X			

## **APPENDIX C**

### **PROCEDURES FOR LOCATION / DESIGN CONCEPT STUDIES AND ENVIRONMENTAL STUDIES**

#### **GENERAL**

##### **Purpose**

This document supplements the Project Scope of Work and outlines generally required procedures for Location/Design Concept Studies and Environmental Studies. These procedures were developed by ADOT and have been modified for the Pima Road Corridor project to reflect the fact that City of Scottsdale is the contracting agency.

An attempt has been made to list the procedures in chronological order of occurrence, however, it is understood that many of the required procedures occur concurrently. In particular, procedures relating to development of the Location/Design Concept Report proceed concurrently with environmental studies.

It is also understood that Location/Design Concept Studies and Environmental Studies are “discovery processes” and that modifications to these procedures may be necessary during the development of the project. Such modifications will be made with the joint agreement of the Consultant and the City of Scottsdale, SRPMIC and ADOT.

##### **Policy**

Location / Design Concept Studies and Environmental Studies shall be prepared in accordance with the ADOT Highway Development Group Policy and Implementation Memorandum No. 89-5 and as modified by the City of Scottsdale and outlined herein.

##### **Local, State and Federal Permits**

The Consultant shall determine the need to obtain any federal, state, and local permits and shall so advise the City no later than 60 days from the notice to proceed. The Consultant shall be responsible for obtaining any required survey permits from the appropriate federal, state, or local agencies, and for obtaining any required rights of entry.

##### **Temporary Entry Documents**

City of Scottsdale, SRPMIC or ADOT will obtain a temporary entry document for entry to each parcel for archaeological surveys, geotechnical investigations and location survey work.

The Consultant shall notify the City of Scottsdale of the need for any temporary entry documents no later than 60 days after the notice to proceed. The City will coordinate with SRPMIC and ADOT to obtain the appropriate owner's signature. The Consultant may not enter any such property prior to approval and acceptance of the temporary entry documents by the City of Scottsdale.

##### **Surveys and Mapping**

The Consultant shall review data provided by the City of Scottsdale, SRPMIC and ADOT. Any field surveys required shall be suitable for contract documents preparation and meet the technical requirements of the City of Scottsdale, SRPMIC, and ADOT and the State Board of Technical Registration.

All surveys and mapping for projects utilizing existing roadway(s) shall be referenced directly to the existing as-built roadway centerline. The centerline shall be re-established in its original position by locating, marking, staking and referencing the PC, PT, TS, SC, CS, ST, PI (if possible), and a minimum of fifty (50) feet station intervals along the curves and one hundred (100) feet station intervals on tangents. The use of offset baselines for re-establishing or defining the existing centerline is not permitted unless approved in advance by the City of Scottsdale. The centerline stationing of the project shall be on the City's established field stationing.

Completed surveys shall be submitted in permanently bound books (3-ring binders are not acceptable) with the final plans. The surveys shall include locations, stakes and references of control points, (including the beginning and ending points of the project), PC's, PT's and PI's (if possible) of curves, POT's with a maximum interval of one thousand (1,000) feet, and bench marks on alternate sides of the roadway with a maximum interval of five hundred (500) feet. Any survey data provided must be certified by an Arizona Registered Land Surveyor. Any coordinates used shall comply with the Arizona State Plane Coordinate System.

Surveys will include, as applicable:

- a. Base line control
- b. Control for aerial mapping
- c. Right-of-way surveys
  - Section Corner and Land Ties
  - Existing Right of Way Monumentation
  - Staking of New Right of Way for Appraisal Purposes
  - New Right of Way Monumentation
  - A "Results of Survey" map
- d. Topographic surveys
- e. Roadway drainage surveys
- f. Utility locating - set control points with coordinates and elevations at five hundred (500) ft. maximum intervals adjacent to the road and along the utility lines (See Section 430)
- g. Centerline staking, centerline of each roadway, as applicable for field review (lath stakes at PC, PI and PT's, at approximate two hundred (200) ft. intervals, and at selected locations if required to define the approximate limits of construction)
- h. Centerline and edge elevations of existing pavement at fifty (50) ft. intervals
- i. Ties to Arizona State Plane Coordinates
- j. Final alignment staking
- k. Crossroads tie-ins, turnouts and driveways
- l. Above ground utilities

The Consultant shall obtain any permits that may be required prior to beginning field work. A traffic control plan may also be required. Preparation of surveys shall conform to applicable documents referenced in Section 200 of the Scope of Work, including (but not necessarily limited to) procedures, record-keeping requirements, equipment use, and safety precautions.

Unless otherwise directed by the City of Scottsdale Project Manager in consultation with a representative of the SRPMIC, the Consultant shall be responsible for selecting a scale that results in good plan clarity. The following scales are suggested:

- a. 1" = 500' (Drainage map and R/W key sheet)
- b. 1" = 50' (Construction Plans and R/W maps)
- c. 1" = 20' (Intersections, urban streets, and other items of considerable detail)

The consultant may be responsible for delineating the proposed new centerline, right-of-way, and/or toe of slope to assist in the evaluation of the proposed alternates, utility locations, and to assist with any required archaeological testing.

Completed surveys and maps shall be recorded in an acceptable format. Upon final approval, the books, maps and CADD files, and other diskettes, shall be submitted to the City of Scottsdale Project Manager with a copy to the representative of the SRPMIC.

### **Utilities and Railroads**

The Consultant shall establish contact with utility companies to obtain all applicable facility location mapping. The Consultant shall coordinate all activities with the various utility companies. The Consultant shall furnish the City of Scottsdale Project Manager and a representative of the SRPMIC with copies of all correspondence between the Consultant and the utility companies. All correspondence shall include complete TRACS No., Project No., Roadway Section, and Project Location.

Where a utility conflict is evident and relocation is required, the Consultant shall assist in the estimation of relocation costs. The Consultant shall provide the Project Manager with all conflict information and the proposed solution. City of Scottsdale, SRPMIC or ADOT will contact the utility company to determine their prior rights status and determine who will pay for the utility relocation. If it is determined the cost of utility relocation is to be included in the project costs, the City of Scottsdale Project Manager will instruct the Consultant to include the cost, including materials, labor and engineering, in the L/DCR.

The Consultant shall distribute as many copies as necessary of the design concept to the affected utility companies. All response comments from the utility companies shall be directed to the City of Scottsdale Project Manager with a copy to the representative of the SRPMIC.

### **Public Information Meetings & Hearing**

#### **Public Information Meetings**

The Consultant and its staff shall be available, at five (5) workdays notice, to attend meetings or make presentations at the request of the City of Scottsdale Project Manager. The purpose of these meetings shall be to inform the public of the scope, details, and anticipated schedule of the project, or solicit input from the public regarding the project. Such meetings and presentations may be held at any hours between 8:00 a.m. and 12:00 midnight on any day of the week except legal holidays. The Consultant shall be responsible as applicable, for the preparation of graphics, handout materials, minutes of the meetings, audio-visual displays and similar material for such meetings. All such materials shall prominently identify City of Scottsdale, SRPMIC and ADOT. Payment of premium overtime for this activity must have prior approval of the City of Scottsdale Project Manager.

#### **Public Meetings, Hearings, or Other Formats**

The Consultant and its staff shall be available, at five (5) workdays notice, to attend or make presentations at Public Meetings, Hearings or other formats at the request of the City of Scottsdale Project Manager. The purpose of these meetings shall be to solicit input and/or inform the public of the preferred alternative, provide information about the issues leading to the recommendation and provide the public with an opportunity to comment on these recommendations and issues. Such hearings and presentations may be held at any hours between 8:00 a.m. and 12:00 midnight on any day of the week except legal holidays. The Consultant shall be responsible as applicable, for the preparation of graphics, hand-out materials, minutes of the hearing, audiovisual displays and similar material. All such materials shall prominently identify the City of Scottsdale, SRPMIC and ADOT. Payment of premium overtime for this activity must have prior approval of the City of Scottsdale Project Manager.

## Meeting Notifications

Meetings and site visits shall be announced a minimum of two weeks (preferably four weeks) prior to the meeting.

## Pre-review of Submittals

Upon completion of any report for distribution, the Consultant shall prepare and submit, to the City of Scottsdale Project Manager, three preliminary copies of the complete document, transmittal letter, and distribution list for pre-review. Upon receipt of comments, the Consultant shall prepare and distribute the documents for formal review.

## Order of Events

The following steps and reports may be necessary in order to complete an acceptable Design Concept Study and Environmental Documents. The steps/reports are listed in approximate chronological order and are discussed in subsequent sections of this document.

- Initial Site Visit
- Notice to Proceed
- Project Team Meetings (Kickoff & Progress)
- Data Collection
  - Problem Statement, Project Assessment, Previous Studies
  - Program Data
  - Other Data
  - Video Tape Project
- Photogrammetry, Surveys, Mapping, Digital Terrain Modeling
- Reports
  - Public Involvement Plan
  - Initial AASHTO Controlling Design Criteria Report
- Project Scoping
  - Project Team Scoping Meeting
  - Agency Scoping Meeting
  - Scoping Field Review
  - Public Scoping Meeting
  - Project Scoping Report
- Alternatives Selection
  - Project Team Meeting (Alternatives Selection)
  - Agency Information Meeting (Alternatives Selection)
  - Public Information Meeting (Alternatives Selection)
  - Alternatives Selection Report (Including Environmental Overview)
- Reports
  - Preliminary Geotechnical Report
  - Preliminary Drainage Report
  - Preliminary Traffic Report
  - Biological Evaluation Report
  - Bridge/Structure Concept Report
  - Cultural Resources Report
  - Air Quality and Noise Analysis Report
  - Hazardous Materials Survey Report
  - Visual Impact Analysis
- Identify Recommended Alternative
  - Project Team Meeting (Recommended Alternative)
  - Agency Information Meeting (Recommended Alternative)
  - Public Information Meeting (Recommended Alternative)

Initial Location/Design Concept Report (Concurrent with Draft Environmental Assessment)  
Draft Environmental Assessment (Concurrent with Initial Location/Design Concept Report)  
Review and Approval

Project Team Meeting (L/DCR & EA)

Agency Meeting (L/DCR & EA)

Public Hearing (L/DCR & EA)

Comment Resolution

Comment Resolution Documentation for Initial Location/Design Concept

Comment Resolution Documentation for Draft Environmental Assessment

Reports

Implementation Plan

Access Management Report

Final AASHTO Controlling Design Criteria Report and Request for Design Exceptions and Deviations

Final Location/Design Concept Report (Concurrent with Final Environmental Assessment)

Final Environmental Assessment (Concurrent with Final Location/Design Concept Report)

Document Printing and Distribution.

## **INITIAL SITE VISIT**

An initial site visit will be held with the City of Scottsdale Project Manager, other city staff as appropriate, representatives of SRPMIC & ADOT and the Consultant's key personnel. The purpose of this site visit is to acquaint the City, SRPMIC and ADOT and the Consultant with the project objectives, issues, and concerns and to provide input to assist in the preparation of scope modifications, contract hours and costs for contract negotiations.

## **NOTICE TO PROCEED**

Design Consultants are issued a written Notice To Proceed by the City of Scottsdale Project Manager after contract negotiations are completed.

## **PROJECT TEAM MEETINGS (KICKOFF & PROGRESS)**

A Project Team Kickoff Meeting and periodic Progress Meetings will be held with key City, SRPMIC and ADOT personnel, the Consultant's key personnel, sub-consultants, and significantly involved agency representatives. The purpose of the meetings is to acquaint the Consultant, the sub-consultants, and involved agencies with the project objectives and progress and to maintain a strategy for effectively completing the project.

At the Kickoff Meeting, the Project Team will identify other key organizations from which to gather information. These organizations may include the following:

Flood Control District of Maricopa County

Neighborhood groups, HOA's, or other groups representing neighborhood interests

Property owners/other affected stakeholders within SRPMIC or Scottsdale

Chamber of Commerce

Special Interest Groups

Civic Organizations

Service Organizations

Schools

Emergency Services

Utilities

At the Kickoff Meeting, the Project Team will schedule the Agency Scoping Meeting, Field Review, and Public Scoping Meeting.

The frequency, location, and duration of subsequent Progress Meetings will be determined by the Project Team as approved by the City of Scottsdale Project Manager.

## **DATA COLLECTION**

### **Problem Statement, Project Assessment, Previous Studies**

If a Problem Statement, Project Assessment, or previous studies were prepared for the project, obtain and review the file for completeness of available data.

### **Other Data:**

Review the City of Scottsdale and ADOT Five-Year Capital Improvement or Highway Construction Program (current and tentative), Corridor Studies, etc. for projects in the vicinity of this project.

Check ADOT Corridor Study/Small Area Study and State Highway System Plan for future/proposed project(s) or typical sections, and the City of Scottsdale and MAG Transportation Planning divisions for information regarding the project(s) identified in the Regional Transportation Plan for this corridor. Most Corridor Studies are available in Pre-Design Section files; if not, ADOT Transportation Planning should be contacted.

Check the (updated) City of Scottsdale Streets Master Plan and Streets Classification Map to assist in design speed determination, and for use in review and/or preparation of the AASHTO Criteria Report.

Obtain all as-built drawings and maps for the project from City of Scottsdale, SRPMIC and ADOT Engineering Records. Copies of as-built plans are free to consultants under contract to City of Scottsdale and ADOT. Consultants under contract can obtain up to two free copies of maps, specifications, and other types of documents.

Obtain a copy of the previous DCR prepared by BRW Inc. for Pima Road (a joint study performed for the City of Scottsdale, the SRPMIC, and ADOT).

Request from City of Scottsdale Transportation Planning Division and Maricopa Association of Governments (MAG) the current and projected design year Average Daily Traffic Count (ADT), along with K (Design Hour Factor), T (% Trucks & Recreation Vehicle), D (% Directional Distribution Factor) and the location of any traffic counter loops existing or required. If the project contains an Interchange include ramps and crossroads in your request. Data should be requested for the program year with projection for twenty years.

Request the last Five-Year Accident Report from ADOT Traffic Group, Studies Section.

Request from ADOT Materials Pavement Section preliminary pavement structural data and any recommended special oils or percentage of oils that may vary from the standard specifications and would influence the cost of these items in the estimate.

Using the ADOT Bridge Record Log, prepare a Bridge Evaluation Request and forward to the ADOT Bridge Group, Bridge Management Section for evaluation. Do not include concrete box culverts unless they are multi-barreled and have a structure number and a bridge barrier.

Request from Maricopa County Assessors Office and ADOT Right-of-Way Section the assessors maps and ownership records of the properties adjacent to and within the existing and proposed right-of-way. This will provide the information needed to plot property lines on the aerial photos and mapping used for exhibits. Acquire the names and address of property owners that are within three hundred feet of the project. Prepare a list of the owners for use in notification of public informational meetings and public hearings.



This ownership list will also be of use for acquiring rights of entry for surveys (archaeology, hazardous waste, alternative centerlines and/or proposed rights-of-way).

Obtain additional property ownership information from SRPMIC and County Assessors maps.

Obtain available utility plans and information.

Obtain any other available mapping such as County Highway maps.

Contact any City of Scottsdale, SRPMIC or ADOT Sections necessary to obtain available information. Record all pertinent verbal communications.

Depending on the particular project there may be need for additional or different data than which was described above.

### **PHOTOGRAMMETRY, SURVEYS, MAPPING, DIGITAL TERRAIN MODELING**

The Consultant shall research all available City of Scottsdale, SRPMIC and ADOT photogrammetry, survey, mapping, and digital terrain modeling; and identify/obtain additional data as required to complete the study.

### **REPORTS**

#### **Public Involvement Plan**

The Consultant shall be responsible for the development of a Public Involvement Plan that identifies the number, purpose, and schedule of public information meetings, as well as formal Public Hearing(s) and any additional efforts to provide community involvement. These activities might include a website, mailings, flyers, newsletters, displays, questionnaires, handouts, surveys, construction alerts or meetings with neighborhood groups, citizens committees or local organizations, special presentations, or point contacts.

The Public Involvement Plan will be submitted within 60 days of "Notice to Proceed." This effort will be coordinated with and approved by the City of Scottsdale Project Manager and coordinated with a representative of SRPMIC.

The Consultant shall provide staff and/or materials for public information meetings and public hearings. The Consultant shall schedule a strategy meeting at least two weeks prior to any public meeting with the City of Scottsdale Project Manager, SRPMIC representative and ADOT representative, and any necessary sub-consultants or participants. The purpose of this meeting will be to determine meeting format, necessary graphics and to identify the roles of all participants. The Consultant shall prepare all advertisements for public meetings and submit to the City of Scottsdale Project Manager four weeks prior to publishing deadlines. The City of Scottsdale and SRPMIC will be responsible for advertisement of any public meeting notice. The Consultant will make all arrangements for the public meetings, including providing technical support. The City of Scottsdale will arrange for liability insurance, as required.

The consultant shall develop and maintain mailing lists for all affected public and private agencies and organizations and all private individuals who have commented on the project or who have expressed an interest in being on the mailing list.

## **Initial AASHTO Controlling Design Criteria Report**

As part of the study, the Consultant shall, using "as-built" plans and a field reconnaissance, perform a complete roadway inventory and evaluate the existing roadway for compliance with AASHTO Controlling Design Criteria as specified in ADOT Planning and Engineering Groups "Procedural Guide for Review of the AASHTO Controlling Design Criteria on Existing ADOT Roadways." The Consultant shall also include in the Design Criteria Report the existing roadways compliance to City of Scottsdale standards.

The Consultant shall prepare an Initial AASHTO and City Design Criteria Report which shall identify existing design features which may not comply with desired AASHTO or City design criteria such as: lane and shoulder widths, vertical and horizontal alignments, stopping sight distance, superelevation, design speed, grade, cross slope, vertical clearance, bridge width, structural capacity, bridge rail, design traffic volume, intersection sight distance, roadway lighting, pedestrian ramps and bicycle facilities.

Using information developed in the Initial AASHTO and City Controlling Design Criteria Report, traffic accident data furnished by ADOT Traffic Studies Section, and other available information, the consultant shall evaluate existing design features which do not comply with AASHTO or City design criteria and incorporate design modifications into the recommended roadway alternative as appropriate.

## **PROJECT SCOPING**

### **Project Team Scoping Meeting**

A Project Team Meeting will be held in preparation for the Agency Scoping Meeting, Scoping Field Review, and Public Scoping Meeting. This Team Meeting will be held at least four weeks prior to the agency/field/public meetings. The purpose of this meeting will be to:

- Identify participants
- Review graphics and exhibits
- Review possible questions and answers
- Identify strategies
- Prepare Meeting Advertisement

Note: the advertisement must be completed four weeks prior to the Public Meeting to allow for review and public advertisement two-weeks and one-week prior to the Public Meeting.

### **Agency Scoping Meeting**

The Consultant will conduct and/or moderate the Agency Scoping Meeting in cooperation with the City of Scottsdale and prepare all coordination letters. The meeting will be held in a convenient location prior to scheduling of the field review. This allows the agencies to voice their concerns and point out the areas that may need additional attention during the field review. Having the agency scoping meeting prior to the field review will also reduce the number of participants attending the field review and allow for the more technical aspects to be discussed.

As alternatives are generated it may be necessary to meet with the different agencies to clarify and/or refine their concerns.

The following is a general list of agencies that may receive coordination letters for the project:

- All City of Scottsdale Disciplines
- All SRPMIC Disciplines
- Selected ADOT Disciplines
- Bureau of Land Management.
- Bureau of Indian Affairs (and tribal chairmen of the Indian reservations).
- Fish and Wildlife Service
- Arizona State Land Department
- Arizona Game and Fish Department (AGFD).
- Arizona Department of Environmental Quality.
- Arizona Department of Water Resources.
- Arizona Commission of Agriculture and Horticulture (ACAH).
- Arizona Department of Public Safety.
- Maricopa County Department of Transportation.
- Maricopa Association of Governments (MAG).
- Relevant utility companies.
- Irrigation or water users associations.
- Flood Control District of Maricopa County
- Resident or homeowners associations.

All of the above may or may not need to be notified, also there may be other agencies not listed that may need to be included.

### **Scoping Field Review**

The Consultant shall arrange a visit to the project site with City, SRPMIC, ADOT, FHWA, utility companies, major land owners, and other agency representatives. The site visit shall be scheduled at least two weeks prior to the visit. The visit should be held shortly after the Consultant is authorized to proceed, preferably within 30 working days of the receipt of written Notice to Proceed, or as otherwise approved by the City of Scottsdale Project Manager. It is preferred that this site visit be held on the same day as, or combined with, the Agency Scoping Meeting.

City of Scottsdale representatives, SRPMIC representatives, and Consultant personnel assigned to perform the work on the project shall attend. ADOT and FHWA will attend at its own discretion. The purpose of this visit is to acquaint key personnel with the details and features of the project and to gather input on issues, concerns and opportunities.

Prior to scheduling the field review the consultant shall contact the City of Scottsdale Project Manager and key participants for a consensus on a date to insure that they can attend or have a person with knowledge of their desires and with the authority to make decisions and/or recommendations regarding the project, attend in their stead. After reaching a consensus for the date and time a letter of notification shall be sent by the Consultant a minimum of two weeks (preferably four weeks) prior to that date to all of the invited personnel and/or agencies.

It is recommended that the consultant visit the site with an assistant or staff members to become familiarized with the existing conditions, gather any needed measurements (i.e. superelevation, slope rates, pavement widths, clear zone, etc.) prior to the scheduled field review, thus allowing more time for the agencies present to input technical information for alternatives and to discuss their concerns and issues.

The Consultant shall record all major conflicts, comments, and preferences voiced by the involved parties during the field review.

### **Public Scoping Meeting**

The Consultant shall present several preliminary layouts or alternatives to the public at a Public Scoping Meeting. These normally are line type presentations on aerial photos at an appropriate scale (typically, one inch equal two hundred feet).

This meeting may be held as an open-house meeting, a formal meeting, or as a combination. There should be ample personnel familiar with the project, available to interact with the public on a one-to-one basis.

The Consultant shall coordinate with the City of Scottsdale Project Manager to determine the moderator of the public meeting, the meeting site, and inspection of the facilities for adequacy. The City of Scottsdale will be responsible for insurance and any fees charged for use of the meeting facilities, along with required advertising. The Consultant will provide a sound system, easels and signs for directing the public to the meeting room.

The Consultant shall prepare a sign-in sheet with space for names and addresses and blocks to be checked if they wish to be on mailing list for future informational updates and/or newsletters concerning the project. A comment sheet for written comments shall be available. The comment sheet may have some of the concerns and/or issues list to help solicit comments. It should have an optional signature line. The public can deposit their comment sheets in a comment box or mail them by a given date; therefore, there should be a name and address for the Consultant person responsible for receiving and compiling of these comments.

### **Project Scoping Report**

The Consultant shall prepare a brief written report which includes an Executive Summary; meeting minutes or summaries of the Agency Scoping Meeting, Field Review, and Public Scoping Meeting; copies of handouts and graphics, and attendance lists or sign-in sheets from each meeting. The purpose of this report is to summarize all activities associated with the meetings.

## **ALTERNATIVES SELECTION**

### **Project Team Meeting (Alternatives Selection)**

A Project Team Meeting will be held to present the selected alternatives to the Project Team consisting of City, SRPMIC and ADOT representatives and to prepare for the Agency and Public Information Meetings. The Consultant will present alternatives considered, provide an evaluation matrix, make recommendations, solicit comments, and obtain consensus. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information meetings

### **Public Information Meeting (Alternatives Selection)**

A Public Information Meeting will be held in the project vicinity to present the proposed alternatives and solicit comments from the public and interested organizations.

### **Alternatives Selection Report (Including Environmental Overview)**

The Consultant shall prepare a brief Alternative Selection Report recommending those alternatives to be carried forward for complete evaluation in the Initial Location/Design Concept Report and Draft Environmental Assessment.

The report will serve as documentation of the Project Team Meeting, Agency Information Meeting, and Public Information Meeting and will contain minutes and exhibits from those meetings.

The number of alternatives recommended will depend on the type of project, but will normally be six or seven which will be reduced to three or four along with a “no build”.

The Consultant's alternative recommendations will be supported by the Consultant's research, the Initial AASHTO analysis, drainage evaluations, utility and right-of-way information and other information of record, an environmental overview, results of the Agency Scoping Meeting, results of the Field Review, and results of the Public Scoping Meeting.

Utilizing appropriately scaled aerial mapping, the Consultant shall prepare initial alignments and/or alternatives to the extent necessary to evaluate the alternatives with regard to advantages and disadvantages of the following:

- Geometrics and terrain limitations
- Access to adjacent development
- Off site drainage
- Traffic accommodation during construction
- Cost
- Environmental Overview
- Other issues of concern (public acceptability, right-of-way, etc.)

The Environmental Overview will be based on “windshield surveys” and a literature search and will address fatal flaws for alternatives and provide order of magnitude evaluations for alternative comparisons.

The alternative selection report shall contain the following:

- Executive Summary
- Alternatives Graphics
- Evaluation Matrix
- Minutes from, or a summary of:
  - Alternatives Selection Consensus Meeting
  - Agency Information Meeting
  - Public Information Meeting
- Responses to Public Concerns
- Recommendations

The Report shall be distributed to all individuals who will ultimately receive the Location/Design Concept Report for consensus on recommendations. Comments disagreeing with the recommendations will be evaluated by the Project Team and responded to. If comments result in modifications of recommendations, a letter documenting the recommended change will be circulated for concurrence.

If substantial changes are made over what was presented to the public, it may be necessary to have another informational meeting prior to proceeding with the Initial Location/Design Concept Report.

## REPORTS

### **Preliminary Geotechnical Assessment Report**

The Consultant shall research existing "as-built" drawings and records and conduct a site visit with a qualified Geologist or Geotechnical Engineer who shall make observations of the materials encountered and their relative suitability for construction. A Preliminary Geotechnical Assessment Report shall be prepared and an assessment of the site shall be included in the L/DCR.

### **Preliminary Drainage Report**

The Consultant shall perform a drainage study in accordance with current City of Scottsdale and SRPMIC methodology.

The Consultant should obtain and assess available pertinent public information to identify flood-plains and their impacts, and determine existing flow patterns and known drainage problems throughout the highway corridor, including downstream reaches within the area of influence of project. Analysis of pre-construction hydrologic conditions should be performed in order to evaluate hydraulics (capacity, velocity, flood over-topping elevations etc.) of any existing structures and the impacts of alternatives considered.

The Consultant shall research and evaluate potential future development (20 year planning horizon) within the watershed, which may have an impact on future drainage flows and ultimately the performance of existing or proposed hydraulic structures.

The purpose of the drainage study is to identify potential drainage problems for the proposed improvement, to recommend solutions, and to establish initial culvert and channel sizes and alignments consistent with the improvement concept.

Existing drainage facilities shall be analyzed for adequacy including collection and disposal system for the roadway drainage.

Information and documentation shall be provided to confirm that no adverse or increased flows or changes to the off-site and surrounding area will take place as a result of this improvement and construction.

The Consultant shall carefully document and photograph all existing drainage problems, carefully evaluate recommended solutions and assure existing conditions are not impacted by proposed roadway improvements.

The Consultant shall document drainage problems, design approaches, solutions, and initial hydraulic structures requirements in a separate Preliminary Drainage Report, which will be summarized in the L/DCR.

### **Bridge/Structure Concept Report**

The Consultant shall prepare a Bridge/Structure Concept report to identify type, size, and location required for preliminary cost comparisons. Coordination will be required with the Salt River Project.

### **Preliminary Traffic Report**

#### **General**

The Consultant shall prepare a Preliminary Traffic Report with sufficient detail to identify existing and future capacity and level of service and to develop the number of lanes required, intersection requirements, access restrictions/limitations, potential cross access agreements, signal warrants, and interchange requirements to provide an acceptable level of service through the design year.

City of Scottsdale Traffic Engineering Section should be contacted to determine if traffic counts and turning movements exist at required intersections. The Consultant will be required to provide the data that is not available.

The report shall recommend geometric and/or operational improvements to the main roadway, crossing arterials and intersections. This includes turn lanes at intersections, additional lanes on Pima Road, and other mitigation measures. A LOS "D" or better is desired for Pima Road and at signalized intersections.

The Preliminary Traffic report will be a separate report and the results of the study will be summarized in the Location/Design Concept Report.

#### **Signals and Lighting**

The Consultant shall evaluate the need for roadway lighting and signals within the project limits. The Consultant will identify those intersections where traffic signal warrant studies are necessary. The results of those studies shall be reflected in the design concepts developed by the Consultant.

### **Biological Evaluation Report**

A Biological Evaluation Report shall be developed as a separate technical report. The Consultant shall summarize Biological Impacts in the Environmental Assessment. The biological evaluation and all technical documentation used to produce it shall be included in an Appendix of the Environmental Assessment with the exception of Threatened and Endangered Species information deemed inappropriate for publication.

### **Cultural Resources Report**

#### **Cultural Resources Literature Search and Survey**

The Consultant shall prepare a cultural resources literature search and conduct a Class 3 survey. The Cultural Resources Report describing the investigations conducted, the findings, and recommendations for further action shall be submitted upon completion of the survey. The Consultant shall summarize the applicable cultural resources information in the Environmental Assessment.

### Archaeological Testing and Data Recovery

The Consultant shall provide any required technical information regarding new R/W or areas that may need archaeological testing.

### **Air Quality and Noise Analysis Reports**

The Consultant shall prepare separate Air Quality and Noise Analysis Reports leading to and supporting the conclusions reached in the environmental evaluation. The Consultant shall summarize impacts from the air and noise studies in the main text of the Environmental Assessment and the Reports shall be included in the Appendix of the Environmental Assessment.

### **Hazardous Materials Survey Report**

The Consultant shall conduct a Hazardous Materials Survey through the use of visual surveys, aerial photo review, past and present land use, regulatory records review, and prepare a report describing the findings and recommendations for further action. The consultant shall summarize the survey results in the Environmental Assessment. The report shall be included in the appendix of the Environmental Assessment.

### **Visual Impact Analysis**

The Consultant shall summarize the visual impacts in the Environmental Assessment and Location/Design Concept Report. The analysis will not be developed as a separate technical report

## **IDENTIFY RECOMMENDED ALTERNATIVE**

### **Project Team Meeting (Recommended Alternative)**

A Project Team Meeting will be held to present the recommended alternative to the Project Team and to prepare for the Agency and Public Information Meetings. The Consultant will present the recommended alternative, solicit comments, and obtain consensus. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information Meetings.

### **Agency Information Meeting (Recommended Alternative)**

An Agency Meeting will be held to present the recommended alternative. The discussion, comments and consensus from this meeting will be incorporated as the Consultant continues development of the project. The Agency Information Meeting may be supplemented with, or replaced by, an Agency Field Review.

### **Public Information Meeting (Recommended Alternative)**

A Public Information Meeting will be held in the project vicinity to present the recommended alternative and solicit comments from the public and interested organizations.

## **INITIAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Draft Environmental Assessment)**

The Consultant shall prepare an Initial Location/Design Concept Report. All work shall be addressed in sufficient detail to clearly document the design concept, substantiate recommendations, document alternate considerations, and identify environmental impacts.



The following is an outline and procedural guide that should be used in preparing the Location/Design Concept Report:

Cover Sheet

The Cover Sheet shall contain the Project Route No., County, TRACS No. Federal Reference No., Project Name, Roadway Name, Type of report Initial, or Final, prepared for City of Scottsdale, SRPMIC and ADOT by (report author), and date.

Title Page

The Title Page shall contain the same information as the Cover Sheet

Table of Contents

Executive Summary

Brief description of project purpose, location, and scope, TRACS and Federal Aid Project Numbers, limits, length of project, county, program year, programmed and estimated costs, identification of consultant involvement, required coordination with other projects, local government agreements, overall transportation corridor goals, specification of public lands involvement such as National Forest, Indian Reservation, etc. The recommended alternative shall be identified. The estimated cost of design, construction, utility relocation's and right-of-way shall be noted for the recommended alternative.

List of Figures

Introduction

Foreword

Identify the AASHTO and City of Scottsdale Street Classification of the roadway. Identify the posted speed(s). Identify and discuss the existing and future major traffic generators.

Need for Project

Include a complete analysis of why the project is needed. The analysis should describe how the existing roadway is functioning and the reasons that prompted the City of Scottsdale, SRPMIC and ADOT to program or investigate a project at this location. Any cause/effect relationships suggested by review of existing data and interviews with the parties involved shall be identified and discussed.

Project Objectives

Completely describe the objectives of the project. The data in this section is dependent on the analysis presented in the "Need for the Project" section of the report. The objectives to be accomplished by the project should be the remedies needed to correct the problems identified in "Need for Project."

Characteristics of the Corridor

This section shall include, but not be limited to the following data:

- The width of the existing pavement and the type of pavement section.
- The lane, sidewalk, and multi-use path widths of the existing roadway. If curb and gutter are present, the locations and types shall be listed.
- The design speed(s) of the existing highway.
- All previous projects constructed within the improvement section shall be identified. The project numbers and construction dates shall be listed in a table.
- The horizontal and vertical alignments of the existing roadway shall be described.
- A description of the existing right-of-way shall be included. The minimum and maximum right-of-way widths shall be noted, and the type of right-of-way, easement or deed, shall be identified. The types of ownership within the project - private, Indian Tribe, etc. - shall be identified.
- The drainage characteristics of the corridor shall be described. Any watersheds, drainage's, or waterways within or adjacent to the project shall be identified. A description of all drainage and irrigation facilities within or adjacent to the project shall be included. If there are any agencies or other authorities responsible for the drainage or irrigation facilities, they shall be identified.
- The total number and type of existing drainage structures (bridges, pipes, and concrete box culverts) shall be listed. A brief description of the major bridge structures within the project shall be included.

- The surrounding topography and terrain shall be described. The primary geology, soils, and vegetation shall be identified.
- The future land use proposed for the area shall be described. Major proposed developments shall be identified and described.

#### Description of the Project

Include a complete description of the proposed work for the recommended alternative only. The following data shall be included in the description:

- The length of the project
- The termini of the project. Each terminus shall be clearly identified by station.
- The total pavement width. The curb to curb type and width shall be listed. The lane widths, median width, and sidewalk widths shall be listed. If there is more than one type of typical section proposed, each shall be completely described, and the effective limits of each shall be listed.
- The total number of lanes shall be noted and the lengths of all turning lanes.
- Any new right-of-way that is needed shall be identified and described. The quantity needed, in acres, and the type of ownership (residential, commercial, Tribal, etc.) shall be listed
- If curb, gutter, sidewalk, multi-use trails, median treatments, or intersection improvements are proposed, they shall be identified and described. Any IGA's for new sidewalk or other proposed facilities shall be described.
- The striping, marking and signing improvements shall be identified and described.
- Any safety upgrades proposed - slope flattening, curve reconstruction, guardrail upgrades, culvert extensions, hazard removals, etc. - shall be identified and described.
- Any drainage improvements proposed - storm-drains, culverts, catch basins, bank protection, scour protection, channel reconstruction, basins, etc. - shall be described.
- Any utility or irrigation system improvements or conflicts that will impact the design and construction of the project shall be identified and described.
- The traffic control proposed for the project - detours, construction phasing, tie-ins to adjacent projects, etc. - shall be identified.

#### Location and Vicinity Maps.

#### Traffic and Accident Data

All L/DCR's shall have a "Traffic and Accident Data" Chapter. The Chapter shall contain the following sections:

##### Traffic Analysis

##### Source of Data

The sources that provide traffic data for the report shall be referenced.

##### Traffic Data

- The Average Daily Traffic (ADT) Volumes, in vehicles per day, shall be listed. The volumes for both the construction and design years shall be listed.
- The Design Hour Traffic Factor (K), in percent
- The Directional Distribution Factor (D), in percent.
- The Truck Factor (T), in percent
- Intersection turning movement counts and diagrams shall be included.

##### Traffic Operational Analysis

This section will discuss the results of the traffic analysis and the impacts/solutions suggested by review of the data.

##### Accident Analysis

##### Source of Data

The sources that provide traffic data for the report shall be referenced.

##### Accident Data

An itemized list that shows the types and numbers of accidents within the improvement section during the last three year period shall be included. In addition, the total number of accidents, the number of accidents involving injuries, and the number of accidents involving deaths shall be listed. The accidents shall be itemized according to type - rear end, ran off road, hit fixed object, etc. The beginning and ending dates of the accident sample shall be listed.

Review of Accident Data

A report shall be prepared and any conclusions reached shall be cited.

Location Analysis

A "Location Analysis" Chapter shall be included for the portion of the project between McDowell Road and the Hayden Road/Curry Road intersection. The Chapter shall contain the following sections:

Introduction

Reasons why location is an issue shall be discussed. The discussion should include background information explaining why particular alternative locations are being evaluated and what the issues are driving development of the different alternatives. A discussion of field inspections, meetings, and input from others shall be included.

Description of Alternative Corridors

This section shall include a complete description and rationale of each alternative corridor proposed, including the existing corridor. The alignments and impacts of each alternative shall be fully described.

Evaluation of Alternative Corridors

The pros and cons of each alternative location will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, impact on present and future land uses, preferences of outside agencies and other parties, and design exceptions. A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

Conclusions

The recommended location shall be identified, and the reasons and logic used to select it shall be explained. Does cost exceed the programmed amount? Does the recommended alternative have the least amount of negative impacts? Can negative impacts be mitigated? Is the recommended solution interim or within the long-term goals of the overall highway corridor?

Design Concept Alternatives

This chapter shall contain the following sections:

Introduction

This section shall include background information explaining why particular Design Concept Alternatives are being evaluated and what the issues are driving development of the alternatives.

Design Concept Alternatives Considered and Discontinued

This section shall include a brief description of each Design Concept Alternative that was considered and discontinued. The alignments and impacts of each alternative shall be briefly described. The reasons for dropping the alternatives shall be explained.

Design Concept Alternatives Studied

This section shall include a complete description of each Design Concept Alternative that was considered for further development. The alignments and impacts of each alternative shall be fully described.

Evaluation of Alternatives

The pros and cons of each alternative corridor will be discussed. Each alternative shall be evaluated for the following impacts: present and future land use, right-of-way, environmental, cultural resources, archeological, cost, constructability, traffic control, safety, capacity, level of service, drainage, earthwork, flood-plains, utilities, structures, socio-economic considerations, and design exceptions. A matrix chart shall be prepared to evaluate the alternatives. Each alternative shall be listed at the left of the matrix, and each impact shall be listed at the top. A score shall be assigned to each impact to indicate its relative difference between alternatives. Impacts shall be weighted so one impact can be directly compared to another. The criteria used to assign scores to the different impacts shall be explained and discussed.

Conclusions

The recommended alternative shall be identified, and the reasons and logic used to select it shall be explained.

Major Design Features of the Recommended Alternative

This chapter shall contain the following sections

Introduction

This section shall describe the purpose of this chapter

Design Controls

This Section shall include a complete list of the Design Controls proposed for the recommended alternative. The following Design Controls shall be listed in the report:

- Project Design Year
- Design Speed(s)
- Geometrics
- Slope Standards
- Superelevation
- Maximum Degree of Curve
- Maximum Grade
- Typical Section
- Roadway Width
- Lane Width
- Shoulder Width
- Type of Access Control
- Right-of-Way Width

Horizontal and Vertical Alignments

This section shall include a complete description and discussion of the horizontal and vertical alignments proposed for the recommended alternative. The beginning and ending stations of the alignments shall be listed as well as the number of curves, spirals, and tangents.

Access

Based on the Consultant's review of property ownership abutting the proposed right-of-way, existing and proposed land use, access policy, etc., the Consultant shall recommend the access control concept for the corridor. The location of known or currently proposed intersections, median breaks and turnouts will be shown on the conceptual plans. Access requirements for recreation, property and businesses abutting both existing and new right-of-way shall be considered. Both the City of Scottsdale and SRPMIC shall be consulted during this process. The type of access control shall be described. Any special features that are needed to provide access control (such as fencing, gates, and curbs) shall be identified and discussed. Any special access roads, cross access agreements or entrances (such as substation entrances) shall be identified. Any access required for future developments shall be identified and described.

Right-of-Way

This section shall include a complete discussion of the right-of-way requirements for the recommended alternative. The Consultant shall identify the requirements for new right-of-way and easements, including, but not limited to: new roadway right-of-way, slope easements, drainage easements, and temporary construction easements. An estimated cost of the proposed right-of-way shall be included. The accuracy of the R/W requirements shall be commensurate with the design effort. Existing and future land uses, zoning and special uses and their possible effect on the corridor will be summarized and discussed. Include the quantity (in acres), width, and station limits of any new right-of-way required. Identify any private or public groups who control the needed right-of-way such as Bureau of Land Management, Arizona State Land Department, or Indian Tribes. If special right-of-way impacts are involved, they shall be described. For example, if only a partial take of a parcel is needed, the associated impacts on the landowner should be discussed. If operations of a business located on the property will be affected, this should be noted.

#### Drainage

This section shall reference and summarize the information presented in the Preliminary Drainage Report and shall include a description of the drainage impacts associated with the recommended alternative, and a description of the proposed improvements. It shall document existing drainage conditions on parcels upstream and downstream of the proposed roadway improvements. Upstream and downstream impacts caused by proposed drainage modifications shall be identified and discussed. Drainage solutions which do not negatively impact existing conditions shall be provided. This section shall include a summary of hydrologic data and a tentative drainage layout for cross-drainage and tentative structure sizes. Any drainage facility improvements proposed for the project - cut ditches, channels, storm drains, catch basins, culverts, bank protection, scour protection, channel reconstruction, etc. - shall be identified and described. Requirements for special design details shall be identified. If a drainage study is needed for the project, this fact shall be noted and the drainage work to be addressed by the proposed study shall be described.

#### Flood-plain Considerations

This section shall include a description of the flood-plain impacts associated with the recommended alternative. A statement shall be included noting whether or not any areas have been identified by FEMA as 100-year flood-plains. If the proposed project encroaches on a flood plain, the impacts associated with the encroachment shall be identified and described.

#### Section 404 of the Clean Water Act

This section shall include a statement concerning whether or not the recommended alternative qualifies for any nationwide or individual permits required under Section 404 of the Clean Water Act. If permits are required, the following standard declaration shall be included: "ADOT Environmental Planning Group will apply for all permits required."

#### NPDES Permit:

This section shall contain the statement; "Any construction project that will disturb five (5) or more acres of land area will require a National Pollutant Discharge Elimination Systems (NPDES) general permit as directed by Section 402(p) of the Clean Water Act." The Consultant shall identify the need for any such permits

#### Geotechnical

This section shall reference and summarize the results of the Preliminary Geotechnical Report.

#### Earthwork

This section shall include a description of the earthwork impacts for the recommended alternative. The Consultant shall attempt by adjustment of highway geometrics to balance the earthwork within the limits of the recommended design projects to a level commensurate with the study. The estimated total embankment, borrow, or waste shall be specified. Any special earthwork, such as cut ditches or slope flattening, shall be described. Any nearby borrow pits or waste disposal sites shall be identified. A statement shall be included concerning whether or not the earthwork will be balanced. If the earthwork will not be balanced, the quantities of borrow or waste shall be specified.

#### Constructability and Traffic Control

This section shall include discussion of the constructability and traffic control issues of the recommended alternative. Any special features of the project that will make the improvements difficult to construct will be identified and discussed. For example, when a bridge will be constructed in stages on the existing alignment and the existing bridge is to remain as a detour, constructability will be an issue. A detailed description of proposed detours, tie-ins to adjacent projects, construction phasing, and other traffic control measures shall be presented. Recommendations for signing marking and signals shall be included. If special measures are to be taken to provide access, a description of the measures shall be included.

#### Intersections

This section shall include discussion of any intersections that will be constructed or upgraded as part of the recommended alternative. Traffic interchange and intersection geometrics shall be addressed. Pull-out and turn-out treatments shall be addressed. All intersection improvements including signals, signing, and marking shall be identified and discussed.

#### Utilities

Based on existing records along with prior rights information, the Consultant shall identify all utilities within the general project limits to determine potential conflicts and relocations. The Consultant shall indicate the horizontal and vertical location for all known existing utilities from utilities' records on the alternative drawings. The Consultant shall identify any alternatives possible to minimize or eliminate utility line conflicts. The Consultant may be required to prepare a relocation concept and cost estimate for utilities that are being impacted by the project.

#### Structures

The Consultant will determine the need for new and/or reconstructed structures on the project. The consultant shall be fully knowledgeable of bridge types and structural requirements for traffic interchanges, water crossings, and walls. The Consultant shall recommend alternative structures and structure depths to the extent necessary for development of roadway concepts. A Bridge Concept Report to identify Type, size, and location (T.S. & L.'s) and preliminary cost comparisons is required for the SRP Canal crossing as a part of the study.

#### Pavement Design

This section shall include a description of the pavement design proposed for the recommended alternative.

#### Construction Water Sources

The consultant shall identify potential construction water sources, assess their availability and assess the potential for the water sources to meet the requirements of the project.

#### Social, Economic and Environmental Considerations

The report shall include an overview of impacts, displacements, and potential hazardous waste sites, Section 4(f) lands, Section 404 & 401 Clean Water Act, flood-plains, wetlands, historic and archaeological preservation, and shall identify the extent of NEPA documentation required and identify cooperating agencies.

#### Environmental Mitigation Requirements

Environmental Mitigation Requirements will be outlined in the Location/Design Concept Report exactly as presented in the Environmental Assessment.

### AASHTO and City Controlling Design Criteria

Data described in this chapter of the report will be taken from the AASHTO Controlling Design Criteria Report (which is a supplement report to the Location/Design Concept Report). The following sections will be included in this chapter:

#### Introduction

Describe the non-conforming AASHTO and City of Scottsdale DS&PM design elements of the existing roadway, which will be upgraded as part of the project, and those elements for which design exceptions will be requested. The recommended alternative will be used to make this determination.

#### Lane and Shoulder Widths

Compare the existing lane and shoulder widths to the minimums recommended by AASHTO and City of Scottsdale DS&PM. The proposed lane and shoulder widths for the recommended alternative will be noted, and if the proposed widths do not conform to AASHTO or DS&PM, the reasons shall be discussed.

#### Vertical Alignment and Stopping Sight Distance

Compare the existing vertical curve stopping sight distances with the minimums recommended by AASHTO and DS&PM.

#### Horizontal Alignment and Stopping Sight Distance

Compare the existing horizontal curve stopping sight distances, superelevations, and degree of curvature with the AASHTO and DS&PM recommended guidelines.

#### Design Speed

The minimum design speed(s) recommended by AASHTO or DS&PM shall be noted and discussed. If different design speeds are to be used for different segments of the improvement section, the speeds and the associated milepost limits will be noted. The reasoning used to select the design speed(s) shall be discussed. Factors such as type of terrain and functional classification of the highway will be cited as reasons used to select a particular design speed.

#### Grades

Compare the existing maximum grade with the maximum grade recommended by AASHTO and DS&PM. Note the length of the grade, and discuss the operational impact on truck traffic.

#### Cross Slopes

Compare the existing cross slope to the range of cross slopes recommended by AASHTO or DS&PM.

#### Vertical Clearance

Compare the vertical clearances of all underpasses with the minimums recommended by AASHTO.

#### Bridge Structures

Compare the clear width (curb to curb), rail type and strength, and the structural capacity of the bridge with the AASHTO recommended guidelines.

#### Other Considerations

Evaluate and discuss other elements of the roadway included in the City of Scottsdale DS&PM such as bicycle lanes, sidewalks, multi-use paths, bus pull-outs, visibility triangles, driveway standards, median opening spacing, intersection sight distance, lateral clearance, etc.

All features (limited to the "13 Criteria") of the existing roadway that do not conform to current AASHTO or DS&PM recommended design guidelines shall be identified. A statement shall be included concerning whether or not design exceptions will be requested for the recommended alternative. If all or some of the non-conforming features are to be upgraded as part of the project, this fact shall be noted and the features identified.

#### Itemized Cost Estimate

This chapter shall contain an itemized cost estimate for the recommended alternative. Itemized cost estimates for other alternatives shall be placed in the Appendix. Estimated costs for right-of-way and utility relocation's shall be addressed separately for each alternative. The cost estimate accuracy shall be commensurate with the design effort and shall include appropriate contingency factors.

### Appendices

The L/DCR shall have the appendices listed below. The appendices will be tabbed for quick reference.

#### Analysis of Existing Roadway Alignment (AASHTO and DS&PM Controlling Design Criteria Report)

This appendix will contain the review (inventory) of the thirteen AASHTO Controlling Design Criteria and the DS&PM Design Requirements.

#### Detailed Cost Estimates for Other Alternatives

This appendix will contain the detailed cost estimates for alternatives other than the recommended alternative. Each estimate will be properly identified and separated from the others.

#### Typical Sections

This appendix will contain the typical cross sections proposed for the project. The effective limits for each typical section will be noted at the top of the sheet. If alternative sections were evaluated and dropped, these sections will also be shown and clearly identified. The recommended sections will be clearly identified as the recommended ones and separated from the others.

#### Plan and Profile Sheets

Drawings for all horizontal and vertical Alignments proposed and evaluated shall be placed in this appendix. The alignments for the recommended alternative shall be placed before the others and noted as the recommended alternative. Each alternative will be clearly identified and separated from the others. Plan and profile shall be developed to such refinement that

grades can be reasonably determined and earthwork, drainage, right-of-way, environmental impacts and utility conflicts can be identified.

## **DRAFT ENVIRONMENTAL ASSESSMENT (Concurrent with Initial Location/Design Concept Report)**

### **General**

All activities required to reach submittal of the Initial Location/Design Concept Report may proceed concurrently with the environmental studies to be performed. If any ground-disturbing activities are deemed necessary prior to final environmental clearance, coordination and approval by City of Scottsdale, SRPMIC, ADOT and/or affected agencies will be required.

The Consultant shall provide technical information on the project to City of Scottsdale Project Manager and designated representative of SRPMIC, and shall prepare environmental documentation for the project. The Consultant shall be responsible for coordinating with various City, Tribal, or ADOT Departments during the development of, and changes to, the project design concepts. The Consultant shall be responsible for the technical studies and analyses, agency coordination, public involvement and report preparation necessary to produce draft and final environmental documents for the project. The work shall be in accordance with applicable federal and state environmental regulations and as outlined herein.

Upon initiation of the environmental evaluation portion of the work, the Consultant's representative, responsible for the environmental portion of the work, shall meet with the City of Scottsdale Project Manager, representatives of SRPMIC, ADOT Environmental Planning Group, FHWA, BLM, State Land Department, and other participating agencies to discuss the project description, purpose and need, proposed methods of environmental evaluation, anticipated involvement with other agencies, report formats, etc. The Consultant, after this consultation, shall coordinate with affected federal, state, and local agencies and identified special interest groups to discuss the proposed project and its anticipated effects. This coordination may be in the form of letters and/or meetings as determined by the consultant in consultation with City, SRPMIC, ADOT and other participating agencies. This coordination shall be held early in the development stages of the alternative selection process.

During the course of the environmental evaluation, the Consultant shall maintain regular contact with City of Scottsdale Project Manager, advising the City, SRPMIC and ADOT of the progress of the work, the problems encountered and the resolutions thereof.

The Environmental Assessment will generally describe the impacts of the recommended action and the necessary Mitigation Measures in a format agreed to by City, SRPMIC, ADOT and other participating agencies. Technical Reports will be included as appendices with sensitive Cultural, Habitat and Species information removed. Complete Technical Reports with all sensitive information relative to the project will remain on file with the City of Scottsdale and SRPMIC.

The following categories of impact shall be addressed by the Consultant for the project as applicable:

1. Land Use (existing and proposed)
2. Land Ownership
3. Social (includes school, churches, medical facilities, police, fire- houses, residences, relocation's, etc.)
4. Economics (includes commercial and industrial enterprises, employment, local tax base, etc.)
5. Minority (neighborhoods, businesses, residences, etc.)
6. Natural Resources (water, lands, air, etc.)
7. Section 4(f) (parks, recreation, wildlife refuges, lakes, streams, school playgrounds, etc.)
8. Cultural Resources (includes historical and archaeological)
9. Farmlands (prime, unique, statewide importance)
10. Water Quality
11. Section 404 (dredged and fill materials)
12. Endangered Species (plant and wildlife)



13. Native Plants (State Native Plant Law)
14. Flood-plains
15. Wetlands
  
16. Air Quality Report
17. Noise Study Report
18. Wild and Scenic Rivers
19. Natural Areas and Trails
20. Scenic Roads and Parkways
21. Local Traffic Patterns
22. Existing and any additional right-of-way
23. Energy Usage
24. Construction Impacts (of temporary nature)
25. Pedestrian/Bicycle/Equestrian Facilities
26. Visual Qualities
27. Material Pits and Haul Roads
28. Utilities
29. Erosion Control
30. Other Modes of Transportation
31. Sole Source Aquifer
32. Hazardous Materials
33. Potential Construction Water Sources
34. Section 402(p) of the Clean Water Act

A Draft Environmental Assessment shall be prepared for publication. FHWA will be the lead Agency for the NEPA Document. Determination of the Draft Environmental Assessment format will be discussed with and agreed upon by City of Scottsdale, SRPMIC, ADOT, FHWA, and other participating agencies, prior to data gathering for the Technical Reports. Pre-review of the Draft Environmental Assessment by City of Scottsdale, SRPMIC and ADOT Environmental Planning will be required prior to submittal to FHWA and other participating agencies. Signatures by City of Scottsdale, SRPMIC, ADOT and FHWA are required prior to publishing and distributing to other agencies for review and comment.

## **REVIEWS AND APPROVALS**

### **Project Team Meeting (Location/Design Concept Report and Environmental Assessment)**

After distribution of the Initial Location/Design Concept and Draft Environmental Assessment, a Project Team Meeting will be held to solicit comments and obtain consensus from the Project Team and ADOT disciplines, and to prepare for the Agency and Public Information Meetings. The Project Team Meeting will be held two to four weeks prior to the Agency and Public Information Meetings.

### **Agency Meeting (Location/Design Concept Report and Environmental Assessment)**

After distribution of the Initial Location/Design Concept and Draft Environmental Assessment, an Agency Meeting will be held to solicit comments and obtain consensus.

### **Public Hearing (Location/Design Concept Report and Environmental Assessment)**

After distribution of the Initial Location/Design Concept and Draft Environmental Assessment, a formal Public Hearing will be held in the project vicinity to present the recommended alternative and solicit comments from the public and interested organizations. The Public Hearing will be coordinated through ADOT Environmental planning group.

### **Comment Resolution and Consensus**

Depending on the nature of the comments received during the Project Team Meeting, the Agency Meeting, and the Public Hearing, it may be necessary to conduct additional comment resolution and consensus meetings and to prepare additional project documentation. The nature and scope of this work will be established based on consultations with the City of Scottsdale Project Manager and designated representatives from SRPMIC and ADOT.

## REPORTS

### Implementation Plan

The Implementation Plan shall define the individual sequential steps necessary to develop the ultimate corridor goals and design concept developed in the Location/Design Concept Report.

The Implementation Plan shall identify logical construction segments, logical sequence, and probable timetable when such upgrades may be needed based on anticipated development, traffic projections, maintenance problems, life and reuse of existing facility, traffic control, constructibility and other factors.

The Implementation Plan shall include cost estimates for construction segments proposed. Logical sections based on constructibility should be used.

The Implementation Plan shall include:

Interim construction and timing that will:

- Address specific problem areas discovered during the Design Concept Study.
- Extend the useful life of the existing facility before major reconstruction would be needed.
- Result in a phased implementation of the ultimate design concept with a minimum amount of "throw-away".

Cost-effective implementation:

Issues that must be resolved or revisited prior to construction, such as environmental clearance, utility relocation's, intergovernmental agreements and right-of-way acquisition, which will be identified and discussed.

A discussion of proposed adjacent development projects which may affect the roadway.

Construction cost estimates for each proposed project will be included for programming purposes. The Consultant will document the proposed order of construction along with any information, such as forecast traffic volumes, developed to provide guidance as to when certain phases may be needed.

The Implementation Plan will be prepared for the preferred design concept alternative only.

The Implementation Plan format shall be as follows:

#### Executive Summary

Brief description of the location and design concept developed; long-range goals; program year, budget and estimated costs of any programmed projects; summary of interim projects in support of the long-range goals; projected implementation time; and total corridor cost.

#### Implementation

Remedial Projects

Projects identified during the corridor study to address acute capacity and operational problems which would be addressed as soon as funding becomes available.

Interim Projects

Projects that will extend the useful life of the existing facility or delay the need to reconstruct to the ultimate design concept.

Reconstruction Projects

Phased implementation to address ultimate corridor needs, balance earthwork and provide usable segments prior to full construction of the concept.

Project Timing

Description of logic leading to classification of projects as Remedial, Interim or Ultimate.

Trigger events such as projected traffic volumes, LOS, development of major traffic generators, etc., that will warrant the initiation of the projects described above.

Phasing considerations such as earthwork, traffic control, local government agreements, environmental considerations, utilities, etc., that would require one project to precede another.

Individual Project Cost Estimates

Agency Coordination

Local government agreements, both existing and needed prior to construction.

Discussion of public lands involvement such as Arizona State Land Department, Bureau of Land Management, Indian Tribes, etc.

Environmental clearance items, those items identified during the Corridor Study that must be resolved or revisited prior to construction.

City of Scottsdale and SRPMIC will review a preliminary copy of the Initial Implementation Report after completion of the Public Hearing. The Plan will then be distributed for review.

The preferred implementation strategy will be selected by the City of Scottsdale and SRPMIC. The Final Implementation Plan will be used as a guide for programming all projects within the study limits and will be included as a part of the Final Location/Design Concept Report.

### **Final AASHTO Controlling Design Criteria Report and Request for Design Exceptions**

The Consultant shall prepare a Final AASHTO and DS&PM Design Criteria Report which shall describe how the features will be treated, either left as is or improved as part of the project. Design exceptions required for the proposed project will be clearly identified.

Justification for non-corrective action shall be clearly stated in a Request for Design Exceptions. Such reasons as excessive cost, future remedial projects and non-accident history are factors, which might support not improving the features. City of Scottsdale, SRPMIC and ADOT will review this request and jointly decide on a resolution.

### **FINAL LOCATION/DESIGN CONCEPT REPORT (Concurrent with Final Environmental Assessment)**

The Consultant shall prepare the Final Location/Design Concept Report for signatures and distribution

The report shall document the selection to be programmed for construction and shall include refinements of the information developed since the Initial Location Design Concept Report and modifications resulting from review comments and public comment.

The Final Location/Design Concept Report shall include the Final Implementation Plan.

The Final Location/Design Concept Report shall reflect the Project Team's resolution and action (approval or disapproval) regarding AASHTO and DS&PM Design Criteria design exceptions.

The Consultant shall submit the Final Location Design Concept Report, sealed by an Arizona-registered Professional Engineer.

**FINAL ENVIRONMENTAL ASSESSMENT (Concurrent with the Final Location/Design Concept Report)**

Upon completion of the public hearing process, the Consultant shall prepare the Final Environmental Assessment, incorporating a description of the public involvement process and responses to all comments received, and submit it for review. The final environmental document shall be prepared in an addendum format.

Pre-review of the Final Environmental Assessment by City of Scottsdale, SRPMIC and ADOT Environmental Planning will be required prior to submittal to FHWA, BLM, or other participating agencies.

**DOCUMENT DISTRIBUTION**

The consultant shall print and distribute reports as follows. Upon completion of any report for distribution, the Consultant shall prepare and submit, to the City of Scottsdale Project Manager, three preliminary copies of the complete document, transmittal letter, and distribution list for pre-review. Upon receipt of comments, the Consultant shall prepare and distribute the documents for formal review. Copies of review submittals and finalized documents shall be delivered to the City of Scottsdale Project Manager by the Consultant, accompanied by a transmittal letter and distribution list with complete mailing addresses. All deliveries shall be by hand or overnight courier. All plans shall be half-size black and white sheets. Reviewers will be asked to submit their comments on separate comment forms. The number of copies to be distributed should be confirmed with the City of Scottsdale Project Manager prior to printing.

DOCUMENT TITLE	SUBMITAL REQUIREMENTS	
	# OF HARD COPIES	# OF COMPUTER DISKS
PUBLIC INVOLVEMENT PLAN	3	1
INITIAL AASHTO CONTROLLING DESIGN CRITERIA REPORT	3	1
PROJECT SCOPING REPORT	3	1
ALTERNATIVES SELECTION REPORT	20	3
PRELIMINARY GEOTECHNICAL REPORT	3	
PRELIMINARY DRAINAGE REPORT	3	
PRELIMINARY TRAFFIC REPORT	5	1
BRIDGE CONCEPT REPORT	3	
BIOLOGICAL EVALUATION REPORT	3	
CULTURAL RESOURCES REPORT	3	
AIR QUALITY REPORT	3	
NOISE ANALYSIS REPORT	3	
HAZARDOUS MATERIALS SURVEY REPORT	3	
VISUAL IMPACT ANALYSIS	3	
INITIAL LOCATION/DESIGN CONCEPT REPORT	30	3
DRAFT ENVIRONMENTAL ASSESSMENT	15	3
INITIAL IMPLEMENTATION PLAN	5	1
FINAL AASHTO CONTROLLING DESIGN CRITERIA REPORT AND REQUEST FOR DESIGN EXCEPTIONS	3	
FINAL LOCATION/DESIGN CONCEPT REPORT	30	5
ENVIRONMENTAL ASSESSMENT	15	5